

TM1079

High Conductivity Stretchable Adhesive



Product Description

TM1079 is a silver filled, solvent free, one component die attach adhesive that can undergo strains of up to 50% post cure. This conductive adhesive was designed for large dies and accommodates thermomechanical stresses arising from differences in the thermal expansion coefficients between components. TM1079 is highly thermally conductive and can be used in a broad range of applications including aerospace, defense, lighting, energy and medical electronics.

Product Benefits

TM1079 is compatible with large die, and applications with high CTE mismatch. It can be used with high volume automated dispensing processes. The cured material displays outstanding thermal and electrical conductivity, with a unique combination of high flexibility, high die shear strength after significant thermal cycling, and high adhesion to a broad range of materials. The cured material provides stress relief for bonding dissimilar materials which enables high reliability performance metrics such as high resistance to shock and cyclic fatigue.

Typical Properties

Physical State	Paste/Ink
Color	Silver
Viscosity ¹	
1 s ⁻¹	100 Pa·s
10 s ⁻¹	27 Pa·s
100 s ⁻¹	12 Pa·s
Density	3.2 g/mL
Shelf Life at -40°C ²	12 Months
Pot life	12-14 hours
Weight loss on cure	< 1 %
Weight loss @ 300°C TGA	< 3%

¹ Anton Paar MCR302 at 25°C

² Storage at below or greater than can adversely affect product properties

Typical Processing Parameters

Deposition	Stencil / Syringe / Jet
Recommended Curing Conditions	
60 minutes	140°C
30 minutes	150°C

For performance reported, the material was processed at 140°C for 60 minutes.

Typical Performance

Thermal conductivity ³	> 12 W/(m·K)
Die Shear after 1800 cycles moving between -40 °C & 150 °C ⁴	> 50 kg-f
Tg	-10°C
Volume resistivity ⁵	<2.0 x 10 ⁻⁴ Ω·cm
Stretch	40%

³ ISO 22007-2:2015 @121°C

⁴ Die Size used in this test was 20mm x 8mm. No cracks or delamination occurred.

⁵ Measured 24 hours after suggested cure cycle



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Caution

Proper industrial safety precautions should be exercised in using these products. Use with adequate ventilation. Avoid prolonged contact with skin or inhalation of any vapors emitted during use or heating of these compositions. The use of safety eye goggles, gloves or hand protection creams is recommended. Wash hands or skin thoroughly with soap and water after using these products. Do not eat or smoke in areas where these materials are used. Refer to appropriate SDS sheet.

Disclaimer

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